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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,422	09/04/2003	Niraj Vasishtha	113631	7624
32047 7590 10/09/2007 GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC 55 SOUTH COMMERICAL STREET MANCHESTER, NH 03101				
			EXAMINER HAIDER, SAIRA BANO	
			ART UNIT 1796	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/654,422

Applicant(s)

VASISHTHA ET AL.

Examiner

Saira Haider

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7,9,10 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7,9,10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The rejections have been maintained and altered in view of the amended claims.

#### *Claim Rejections - 35 USC § 103*

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 7, 9, 10, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munteanu (US Patent No. 4,428,869). (Col. 6, Lines 38-47; Col. 7, Line 40 to Col. 8, Line 64; Col. 15, Line 55 to Col. 17, Line 17; Col. 18, Lines 31-44; Claim 1; Example IV; Example Letters I and J).
4. In reference to claim 7, Munteanu discloses a composition of matter in the shape of a microcapsule comprising of a core component physically entrapped (i.e. encapsulated) in solid particles (polymeric material), which are further entrapped in a suspending agent (structuring agent); wherein the shell component is considered to be the solid particles covered in the suspending agent.
5. Munteanu discloses various core components such as fragrance oil, which is oxygen sensitive due to ease of oxidation.
6. As mentioned above, the shell component comprises the solid particles (polymeric material) and the suspending agent (structuring agent), wherein an example of the polymeric material is gelatin and an example of the structuring agent is clay. Munteanu discloses that physical forces hold the encapsulated core material, the suspending agent and the unconfined fragrance oil together. It is inherent that the polymeric material comprises pendant ionic groups that form an ionic bridge with the structuring agent, as evidenced by applicant disclosure in paragraphs 18, 21, 51 and the examples. Applicant discloses that gelatin can be employed in the invention as the polymeric material comprising pendant ionic groups, and that clay can be employed in the invention as an ionic

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structuring agent which decreases oxygen and/or water permeation through the encapsulating material, wherein the encapsulating material forms an ionic bridge with the structuring agent.

7. "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, since the prior art teaches the identical chemical structures, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on 'prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

8. Regarding the structuring agent dispersed into the polymer material, it is noted that Munteanu discloses that the core material is encapsulated in the polymeric material via a variety of methods, such as suspension polymerization, emulsion polymerization, coacervation, or via a cellular matrix (Col. 14, Lines 58-62). For example, during the coacervation process cited by Munteanu, the core component is dispersed and encapsulated within a continuous phase of the polymeric material; hence the microcapsule is in the form of a membrane. However, Munteanu does not disclose the presence of the structuring agent in the continuous phase or that the resulting microcapsule shell comprises a dispersion of the structuring agent in the polymeric material. It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the structuring agent in the polymeric continuous phase during the formation of the microcapsules, in

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order to include an agent that, as disclosed above, is capable of decreasing the oxygen and/or water permeability of the polymeric material, and assists in preservation of the core component. Inclusion of the structuring agent in the polymeric continuous phase would result in formation of the microcapsule of claim 7 via coacervation, and would result in the formation of a microcapsule shell comprising a dispersion of the structuring agent in the polymeric material, as claimed.

9. Regarding the amount of structuring agent present in the polymer material of claim 7, it is the examiner's position that it would have been obvious to one of ordinary skill in the art at the time of the invention to vary the amount of structuring agent present in the polymer material in order to control various properties such as oxygen and water permeability of the shell. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

10. In reference to the newly added limitation of claim 7 regarding the particle size of the structuring agent, attention is directed to col. 8, lines 1-3 of Munteanu which discloses that suitable structuring agents include colloidal silica having a particle size of from about 0.004 to about 0.130 microns.

11. In reference to claims 9, Munteanu discloses various core components such as fragrance oil.

12. In reference to claim 10, Munteanu discloses various polymer materials, comprising the solid particles, such as gelatin.

13. In reference to claims 12, the reference discloses various suspending agents such as clay.

14. In reference to claims 13 and 14, Munteanu discloses the inclusion of various additives into the shell component of the microcapsule such as Butylated hydroxytoluene (BHT), an antioxidant, which decreases oxygen or water permeability.

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15. In reference to claim 15, Munteanu discloses that once the microcapsules are prepared the result is a dry, free-flowing powder.

16. In reference to claim 17, the suspending agent, starch, functions as the entrapment agent forming an interior shell around the core component and the polymer material, cellulose, forms an exterior shell around the interior shell. It is inherent that the polymeric material comprises pendant ionic groups that form an ionic bridge with the structuring agent, as evidenced by applicant disclosure in paragraphs 18, 21, 51 and the examples. Applicant discloses that cellulose can be employed in the invention as the polymeric material comprising pendant ionic groups, and that starch can be employed in the invention as an ionic structuring agent, wherein the encapsulating material forms an ionic bridge with the structuring agent. Additionally, see above.

17. In reference to the newly added limitation of claim 18, regarding the uniform dispersion of the structuring agent in the polymer material, it is the examiner's position, in view of the coacervation process cited by Munteanu, that post addition of the structuring agent in the continuous polymeric material phase the phase would be mixed and inherently the structuring agent would be uniformly dispersed.

18. In reference to claim 19, in Example I, Munteanu discloses the creation of a microcapsule where a core fragrance is encapsulated in a shell, and the shell comprises a polymer material coated by a structuring agent. Wherein the structuring agent comprises a second fragrance. Upon usage, the second fragrance is initially detected, followed by detection of the core fragrance. Hence, it is clear that the polymer material forms an interior shell around the core component and the structuring agent forms an exterior shell around the interior shell, and that the fragrance oil was protected from oxidation hence retained its desired activity. Note, that although in Example I Munteanu does not expressly disclose the usage of a polymeric material comprising a pendant ionic group which forms

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an ionic bridge with the structuring agent, Munteanu envisages utilization of a polymeric material comprising a pendant ionic group which forms an ionic bridge with the structuring agent.

19. In reference to the newly added limitation of claim 19, regarding the presence of a gradient extending radially into the microcapsule from the structuring agent to mixture of structuring agent and polymer material to polymer material, Munteanu discloses a microcapsule where a core component is encapsulated in a shell, and the shell comprises a polymer material coated by a structuring agent. It is the examiner's position that inherently a gradient exists extending radially into the microcapsule as claimed, since there is a structuring agent, adjacent to a polymer material, wherein the wherein the polymeric material forms an ionic bridge with the structuring agent (as discussed above). Hence resulting in the creation of a radial gradient. Applicant has not specified the degree of the gradient or degree of mixing of the structuring agent and polymer material to establish a case of non-obviousness.

### *Response to Arguments*

20. Applicants' arguments filed 4/3/2007 have been fully considered but they are not persuasive.

21. Applicants have argued that the entrapped fragrance of Munteanu is one that is releasable either hydrolytically or by means of application of mechanical pressure, and thus, applicants further argue, the obviousness rejection based on including a structuring agent dispersed in the polymer is contrary to the disclosure of Munteanu. In support of their argument, applicants have stated that dispersing the stabilizing agent in the polymer results in a decrease in the oxygen and water permeability of the shell, thus the release could not be completed hydrolytically. The examiner has thoroughly considered applicants' arguments and the support provided, and concludes that the rejection is valid.

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22. Firstly, it is noted, as recognized by applicants, that the entrapped fragrance can be released either hydrolytically or by means of application of mechanical pressure. Thus, it is not necessary that the entrapped fragrance be released by both of the above mentioned modes, either mode is sufficient. Munteanu does not prefer either of the two disclosed alternate embodiments. Wherein as per MPEP § 2123, alternative embodiments constitute prior art. Thus, the proposed modification is acceptably employing an alternate embodiment of the prior art, release of the entrapped fragrance via the application of mechanical pressure.

23. Secondly, the proposed modification has not rendered the prior art unsatisfactory for its intended purpose, nor, has it changed the principal of operation of the reference. Dispersing the structuring agent into the polymeric material will decrease the oxygen and water permeability of the shell material and preserve the core component. Nothing in the combination results in the inability of the core material being released by means of application of mechanical pressure. Thus, the combination maintains the intended purpose of the Munteanu reference as well as maintaining the basic principal under which the Munteanu reference was designed to operate.

24. Accordingly, the *prima facie* case of obviousness is rendered valid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saira Raza whose telephone number is (571) 272-3553. The examiner can normally be reached on Monday-Friday from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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